

REMARKS

This Preliminary Amendment is being filed to amend the application in response to the Final Office Action in the parent application from which this application depends. Applicants wish to correct those issues currently outstanding from prosecution as it ended in the parent application. Specifically, claims 1-21 have been cancelled from the application. These claims were withdrawn from consideration in the parent application but never cancelled therefrom.

Claims 22-26 are currently pending in the application. Only claim 22 is in independent form.

Restriction to one of the following inventions was required under 35 U.S.C. § 121:

- I. Claims 1, 8, 9, 14, 18-21, drawn to a method of making a hose, classified in class 156, subclass 149.
- II. Claims 22-26, drawn to a hose, classified in class 138, subclass 123.

During a telephone conversation a provisional election was made with traverse to the claims of Group II, claims 22-26. Applicants hereby provisionally elect Group II, claims 22-26 for prosecution purposes, with traverse. Applicants hereby conditionally withdraw claims 1, 8, 9, 14, 18-21 for prosecution, without prejudice, and request reconsideration of the restriction requirement.

Applicants traverse the restriction requirement based on the following grounds. It is respectfully submitted that the restriction requirement practice was established to promote efficiency of prosecution in the Patent Office. Both groups of claims relate to a hose assembly and methods of making the same. It is respectfully submitted that examination of all the claims in a single application would be efficient,

thereby promoting the grounds for the establishment of the restriction requirement practice.

Hence, it is respectfully submitted that restriction should not be required and that applicants have traversed the restriction requirement. However, as stated above, applicants have elected the claims of Group II and provisionally withdraw claims 1, 8, 9, 14, 18-21, without prejudice, pending reconsideration of the restriction requirement.

Claims 22-26 stand rejected under 35 U.S.C. § 102(b) as being anticipated by or, in the alternative, under 35 U.S.C § 103(a) as being obvious over E.P.439898. Reconsideration of the rejection is respectfully requested.

The Office Action states that the reference taught that one skilled in the art would have to provide a hose with a braided glass fiber thereon. Prior to the application of the glass fiber on to the tubing, the reference suggested that one skilled in the art would have applied a fluoropolymeric dispersion onto the glass fibers employed in the braid. By performing this step, the finished tubing was provided with a dispersion which completely coated and embedded in the glass fiber braid disposed about the extruded tubing. The Office Action states that while the pending claims at hand recite two separate dispersion coating operations, there is no reason to believe that the product produced by this process would have been any different from the product made by E.P.'898. However, it is respectfully submitted that the method of the presently pending independent claims does provide a very different product that which would be found using the E.P. method.

As stated in the attached Affidavit of Normal Martucci, one of the co-inventors of the present invention skilled in the art of making such devices and the methods of making the same, the "double dip" method (method of the present invention) provides results that were unexpected over the results obtained by the "single dip" method as disclosed in the E.P. patent. Mr. Martucci states that the "single dip" method

produced a higher bond strength between the fiber glass outer braid and the Teflon inner tube while the "double dip" method unexpectedly produced less variation in the strength of the bond and was more flexible than the "single dip" hose. Hence, the "double dip" method and device provided results different from those obtained by the "single dip" method and resulting device. Such results are not at all disclosed or even suggested in the reference. Hence, these results are *de facto* unexpected results.

Moreover, as testified to in the attached Martucci Affidavit, it is the unexpected different results obtained by the "double dip" method of the present invention that was most desirable to the auto industry. It is the "double dip" method that has become the significant commercial embodiment between the two inventions. That is, for fuel line hoses, the automobile industry favored the lesser variation of strength of the bond and more flexibility obtained by the present invention than by the "single dip" hose. Hence, applicants present herewith factual evidence of unexpected results of the present invention over the most pertinent prior art cited, as well as commercial success based upon those unexpected results.

Additionally, as is shown in the attached information provided by Chrysler, Ford, and GM, less variation is in fact of substantial significance. There are specific procedures that must be followed prior to accepting new processes by these motor companies. More specifically, while the use of the "single dip" method which has a higher standard deviation is allowed, there is no indication that using the "double dip" method would provide less variation in the strength of the bond and also provide more flexibility. Therefore, there is no indication that by merely adding additional material, as in the "double dip" process that the new hose will be more flexible or have less standard deviation. Instead, in order for the motor companies to utilize this material, it must pass through a series of tests and be provided with sufficient data to meet the statistical process control standards. The statistical data requirements and the testing that is done is included in the attached material from the motor companies. This material also provides support for the allegation of additional commercial success. Since the "double

dip" process has less standard deviation and is more flexible, it is more likely to be used by the major motor companies because it will pass the more stringent quality control standards. Given this explicit teaching, there is no disclosure or suggestion for the use of a "double dip" process which creates less standard deviation with greater flexibility in a hose assembly.

Claims 23 and 24 stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicants regard as the invention.

The Office Action states that claims 23 and 24 recites that the dispersion is selected from the group consisting of a "fluorocarbon polymer...", however, the independent claim 22 recited that the dispersion comprised a fluorocarbon polymer. It is therefore suggested that the phrase "fluorocarbon polymer" be removed from claim 22. Accordingly, in order for further prosecution, the claim has been amended to remove such language. Reconsideration of the rejection is respectfully requested.


In view of the present amendment and foregoing remarks, reconsideration of the rejections and advancement of the case to issue are respectfully requested.

Continued Prosecution Application of
Serial No.: 09/494,837
Attorney Docket No: 0153.00084

The Commissioner is authorized to charge any fee or credit any overpayment in connection with this communication to our Deposit Account No. 11-1449.

Respectfully submitted,

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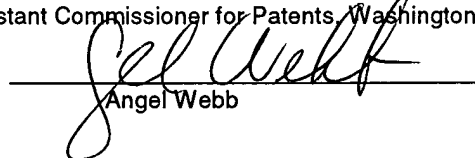
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Angel Webb

VERSION WITH MARKINGS TO SHOW CHANGES MADE

CLAIMS:

22. A hose assembly comprising:
- an inner tubular liner (12) of a fluorocarbon polymer;
 - a dispersion comprising a [fluorocarbon polymer] material applied to said inner liner (12);
 - a braided layer (13) positioned about the inner liner (12) whereby said dispersion prevents relative movement of the braided layer (13) to the inner liner (12); and
 - a second dispersion comprising a [fluorocarbon polymer] material applied to said braided layer (13).



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: Mathew et al.

Serial No.: 09/494,837

Group Art Unit: 1733

Filed: 01/31/00

Examiner: J. Aftergut

For: METHOD OF MAKING FLUOROCARBON COATED BRAIDED HOSE ASSEMBLIES

Attorney Docket No: 0153.00084

AFFIDAVIT

Assistant Commissioner for Patents
Washington, D.C. 20231

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TC 1700

Sir:

I, Norman S. Martucci, being duly sworn, do hereby say that:

1. I am co-inventor of the above-captioned invention.
2. I am skilled in the art of hose construction and have worked extensively in the development of a hose assembly, including coated braided hose assemblies and methods of manufacturing the same.
3. Teleflex, Inc., the Assignee of the presently pending application, manufactures a "double dip" hose assembly, which differs from the hose obtained by the "single dip" method disclosed in the European patent application. The fibers of the European patent application are coated with the dispersion prior to the braiding of the fibers and then the braided tube is coated with the dispersion. However, the "double dip" method of the presently pending application is designed to overcome problems of uniformity of bonding and increased flexibility. These problems are not overcome with the method disclosed in the European patent application. The European patent application

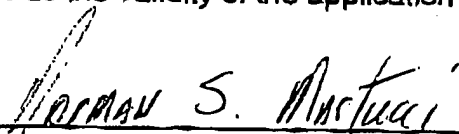
merely bonds the fibers and then has one dipping step for dipping the entire hose with the braid included therein. This does not increase the flexibility nor does it increase the bonding as is accomplished by the "double dip" method of the presently pending application. It was unexpectedly found that the "double dip" method of the presently pending application produces less variation in the strength of the bond and also is unexpectedly more flexible than the single dip hose of the European patent application. Despite the fact that the European patent application discloses dipping the fiber prior to adding the braid, the hose assembly of the presently pending application discloses applying the dispersion to the inner liner, then applying the braid and then applying a second dispersion to the braided layer. The first dispersion allows the braided layer to be bonded to the inner liner and a second dispersion or dip helps maintain the bond strength of the braided layer to the inner tube inner liner. There is no disclosure of this in the European patent application. In this regard, the European patent application is still a single dip method as can be found in other hose assembly patents such as United States Patent No. 5,142,782 wherein Teflon hoses extruded a braid is applied to the Teflon tube and a dispersion including a fluorocarbon polymer material is applied to the braided layer. As is shown in the attached data, this single dip method does not provide the higher bond strength found with the "double dip" method of the presently pending application.

4. The following data presented in the attached exhibits demonstrate the unexpected results obtained by the "double dip" method of the present invention.

Referring specifically to the attached exhibits, the document dated 9/8/92 shows data for single dip. The document dated 9/9/92 for Part No.: TFH-1001-060 show a peel strength for the single dip to be 7.41 pounds plus or minus 1.26 pounds. Hence, there is great variation and higher peel strength. The document in the form of the table dated 6/11/96 and entitled 1995 Peel Data For TFH-1002-050 shows the uniform peel strength data for the tubes resulting from the "double dip" process. The peel strength is lower (between 3 and 4 pounds) but the variation is tighter than that of the single dip process.

5. Automotive customers have made the "double dip" hose of the present invention a significant commercial hose device based upon the characteristics of the "double dip" hose having less variation in strength of the bond and being more flexible.

The undersigned declares further all statements made herein of his knowledge are true and that all statements made on information and belief are believed to be true; and further that the statements were made with the knowledge that willful and false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.


Norman S. Martucci

Date: January 28 2002